# ECO475, Applied Econometrics II, Winter 2020

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| **Lecture**: | Thursday, 10amb-noon, SS1074 |
| **Tutorial**: | Friday, 11am, SS1074 |
| **Instructor**: | Yuanyuan Wan |
| **Phone**: | 416-978-4964 |
| **Email**: | yuanyuan.wan@utoronto.ca |
| **Instructor Office Hours**: | By appointment @ GE 232 |
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| **TA**: | Thomas Stringham |
| **Teaching Assistant Email**: | tom.stringham@mail.utoronto.ca |
| **TA Office Hours**: | TBA |

## Course Description

This course is an introduction to advanced micro-econometrics. The course discusses econometrics models that are intensively used in empirical researches from both statistical foundation and application perspectives. In this course, we will focus on empirical scenarios with cross-sectional or longitudinal data .Students will learn how to address economic questions empirically.

## Textbook

1) A. C. Cameron and P.K. Trivedi, "*Microeconometrics,*" Cambridge University Press. ISBN: 9780521848053
2) A. C. Cameron and P.K. Trivedi, *"Microeconometrics Using STATA"*, STATA Press

## Previous Training:

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| Prerequisites: | ECO375 (70%) / ECO374 (80%). NOTE: STA302H1 is not accepted preparation. |
| Exclusion: | ECO376H1, ECO327Y5 |

Prerequisites are strictly checked and enforced and must be completed **BEFORE** taking a course. It is the student's responsibility to check the prerequisites before enrolling in any course. By taking this course, you acknowledge that you will be removed from the course at any time if you do not meet all requirements set by the Department of Economics. See Faculty of Arts and Science Calendar for details. The instructor does not have any authority of waiving prerequisites.

## Software

**Stata IC, version 13/14/15/16**. The course involves a considerable amount of computing, and students must learn and use a sophisticated statistical software package. STATA IC 13/14/15/16 is the *only* package that will be supported by the instructor and TA's. Students who have strong preference to use other software should contact the instructor in the first week of the lecture.

Students can purchase STATA IC 16 at discounted prices. See the following website for details: https://mdl.library.utoronto.ca/technology/statistical-software. There are several different types of STATA licenses for students. Buy a six-month license of **STATA/IC**. DO NOT purchase Small STATA as Small STATA is not sufficient for ECO475.

## Course Website

The Quercus site will also be used manage class communications. Course materials will be uploaded to the Quercus. Check the announcements posted there regularly.

## Score Policy

The final mark of this course is based on three parts: graded homework, term paper (proposal and completed paper), and final exam. The weights are shown in the table below.

### Graded homework (20%)

There will be two graded homework, each counts for 10% of the course grades. Homework must be submitted to Quercus in PDF file format. If the homework involves empirical work, Stata log files should be submitted too.

Late homework receives zero grades unless I receive an email notification before the due date. An original legitimate supporting documents of missing homework must be presented to my office within one week of the due date of the homework. Scanned, copied, or emailed documents will not be accepted.

If a student misses the homework due date for medical reasons, he or she shall provide an original copy of a fully completed University of Toronto official "Verification of Student Illness or Injury" form. The certificate needs to be completed by a qualified medical doctor whose OHIP number must be provided. You can download the form from http://www.illnessverification.utoronto.ca

If a student indeed misses the due date of the homework with legitimate reasons, he or she must submit the homework within 72 hours of the original due date to get a mark. Otherwise, the student receives zero grade.

### Term Paper (5%+10%+35%)

Students will submit a term paper proposal (5%) by January 30th, make the oral presentation in class (10%) on March 19th or 26th, and submit a completed version of the term paper (35%) by April 6th. Students can work in groups with up to three group members and must notify the instructor the group member names by January 23rd. In the term paper, students will need to identify and answer an empirical question in economics using the methods they learn from this course. Please see the separate document for more details about requirements and tips.

The proposal is due by January 30th, 12pm. The penalty for each day of the lateness is 20% of the original proposal mark. For example, if a student score 5 out of the total 5 points for his/her term proposal, but submit it two days later than the due date, then his/her mark for the term proposal is 5*(1-2*20%)=3.

The complete version of the term paper is due by April 6th, 12pm. The penalty for each day of the lateness is 20% of the original term paper mark. For example, if a student score 30 out of the total 35 points for his/her term paper, but submit it two days later than the due date, then his/her mark for the term paper is 30*(1-2*20%)=18.

Each student of the group shall present a part of their term paper in the in-class presentation. For example, a three-student-group can split the presentation by "literature review + econometric methods + empirical findings". The presentation slides must be submitted to the instructor one week before the presentation date. A presentation registration link will be distributed to the class. All the groups/individual students have opportunities to present, but the slot registration are "first come, first served".

Students who work in groups will receive the same marks for their proposals, presentation, and final papers.

## Final Exam (30%)
We have a final exam for this course. I will discuss more details before the exam. University rules for missing a final exam applies.

### Key Dates

| Tasks | Weights | Due Dates |
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| **Homework** | 20% | February 20 and March 12 |
| **Group member names** | | January 23rd |
| **Term Paper Proposal** | 5% | January 30th |
| **Term paper Presentation** | 10% | March 19 and March 26 |
| **Term Paper Full Version** | 35% | April 6 |
| **Final exam** | 30% | TBA |
| **Total** | **100%** | |

## Planned Course Outline
The following is the planned course outline (subject to minor changes). Students are recommended to preview the corresponding chapters before lectures.

| Week | Course materials | Reference |
|---|---|---|
| Week 1, January 9 | Syllabus and binary outcome models | Chapter 14 |
| Week 2, January 16 | Binary and multinomial models | Chapter 14, 15 |
| Week 3, January 23 | Nonlinear model with endogenous reg. | Notes |
| Week 4, January 30 | Tobit and selection models | Chapter 16 |
| Week 5, February 6 | Tobit and selection models | Chapter 16 |
| Week 6, February 13 | Treatment effect evaluation | Chapter 25 |
| Reading week, Feb 20 | No class, HW1 due on Feb 20 | |
| Week 7, February 27 | Treatment effect evaluation | Chapter 25 |
| Week 8, March 5 | Linear panel data models | Chapter 21, 22 |
| Week 9, March 12 | Linear panel data models<br>HW2 due on March 12 | Chapter 21, 22 |

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| Week 10, March 19 | Term paper presentation | |
| Week 11, March 26 | Term paper presentation | |
| Week 12, April 2 | Nonparametric estimation | Chapter 9 |
| Exam period | | |

## Tutorials

| Weeks | Content |
|---|---|
| Tutorial 1, January 17 | Introduction to Stata |
| Tutorial 2, January 24 | Nonlinear model with endogenous reg. |
| Tutorial 3, February 7 | Tobit and selection models |
| Tutorial 4, March 13 | Linear panel data models |

## Course Policy

### University Attendance Policy

Attendance in all lectures is expected and strongly recommended of all students. Lecture notes serve as lecture outlines and are not substitutions of the lecture themselves.

### Grade Dispute

Requests for re-grading homework and/or exams must be submitted to instructor in writing within one week that the exam and/or homework are returned. The instructor will re-grade the whole problem set and/or exam instead of a single question to ensure the consistency.

### Academic Honesty and the Use of Turnitin.com

Academic integrity is a fundamental value essential to the pursuit of learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously. The University of Toronto's Code of Behavior on Academic Matters outlines the behaviors that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers:
• Using someone else's ideas or words without appropriate acknowledgement.
• Submitting your own work in more than one course without the permission of the instructor.
• Making up sources or facts.
• Obtaining or providing unauthorized assistance on any assignment (this includes working in groups on assignments that are supposed to be individual work).

On tests and exams:
• Using or possessing any unauthorized aid, including a cell phone.
• Looking at someone else's answers.

• Misrepresenting your identity.
• Submitting an altered test for regarding.

Misrepresentation:
• Falsifying institutional documents or grades.
• Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code of Behavior on Academic Matters. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you have questions about appropriate research and citation methods, you are expected to seek out additional information from me or other available campus resources like the College Writing Centers or the Academic Success Centre.

We will use Turnitin.com in this course. Students must submit this assignment by the due date to Turnitin.com for a textual similarity review. *"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".* Students who do not agree with the submission of their paper to Turnitin.com must contact the instructor in the first week of this course.

### Email Policy
I will reply emails within 24 hours, except on weekends and holidays, with the following provisions:

- o The question should require a one (or two) sentence response (maximum). If it takes more, office hours are the more appropriate venue.
- o I will not reply to emails concerning grading. For such matters, office hours are more appropriate.
- o It is also (strongly) preferable that you use the University of Toronto email addresses: my spam filter is set to maximum. Moreover, university policy stipulates a preference for these email addresses.
- o Always identify yourself, course and section in your email.
- o Please do not send attachments of any kind.
- o Please do not submit term work by email.
- o The teaching assistant has one email-hour per week to reply course related questions.

### Off-class Meetings
I will hold two hours' office hour every week. It is reserved for one-to-one discussion of course materials. The teaching assistant Conner Campbell will hold two hours' office hour and one hour tutorial session every week.

## Accessibility Needs
The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or http://studentlife.utoronto.ca/accessibility.